

TRANSMITTAL LETTER TO THE UNITED STATES
DESIGNATED/ELECTED OFFICE (DO/EO/US)
CONCERNING A FILING UNDER 35 U.S.C. 371

RCA 89650

U.S. APPLICATION NO. (IF KNOWN, SEE 37 CFR

10/031091

INTERNATIONAL APPLICATION NO.
PCT/US00/17374INTERNATIONAL FILING DATE
23 June 2000 (23.06.00)PRIORITY DATE CLAIMED
16 July 1999 (16.07.99)

TITLE OF INVENTION

METHOD AND APPARATUS FOR PERFORMING A CHANNEL SEARCH IN A TELEVISION

APPLICANT(S) FOR DO/EO/US

Gene Harlow Johnson, Matthew Thomas Mayer, Scott Edward Klopfenstein and Aaron Hal Dinwiddie

Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information:

1. ☒ This is a **FIRST** submission of items concerning a filing under 35 U.S.C. 371.
2. ☐ This is a **SECOND** or **SUBSEQUENT** submission of items concerning a filing under 35 U.S.C. 371.
3. ☒ This is an express request to begin national examination procedures (35 U.S.C. 371(f)). The submission must include items (5), (6), (9) and (24) indicated below.
4. ☐ The US has been elected by the expiration of 19 months from the priority date (Article 31).
5. ☒ A copy of the International Application as filed (35 U.S.C. 371 (c) (2))
 - a. ☐ is attached hereto (required only if not communicated by the International Bureau).
 - b. ☐ has been communicated by the International Bureau.
 - c. ☒ is not required, as the application was filed in the United States Receiving Office (RO/US).
6. ☐ An English language translation of the International Application as filed (35 U.S.C. 371(c)(2)).
 - a. ☐ is attached hereto.
 - b. ☐ has been previously submitted under 35 U.S.C. 154(d)(4).
7. ☒ Amendments to the claims of the International Application under PCT Article 19 (35 U.S.C. 371 (c)(3))
 - a. ☐ are attached hereto (required only if not communicated by the International Bureau).
 - b. ☐ have been communicated by the International Bureau.
 - c. ☐ have not been made; however, the time limit for making such amendments has NOT expired.
 - d. ☒ have not been made and will not be made.
8. ☐ An English language translation of the amendments to the claims under PCT Article 19 (35 U.S.C. 371(c)(3)).
9. ☒ An oath or declaration of the inventor(s) (35 U.S.C. 371 (c)(4)).
10. ☐ An English language translation of the annexes to the International Preliminary Examination Report under PCT Article 36 (35 U.S.C. 371 (c)(5)).
11. ☒ A copy of the International Preliminary Examination Report (PCT/IPEA/409).
12. ☒ A copy of the International Search Report (PCT/ISA/210).

Items 13 to 20 below concern document(s) or information included:

13. ☒ An Information Disclosure Statement under 37 CFR 1.97 and 1.98.
14. ☒ An assignment document for recording. A separate cover sheet in compliance with 37 CFR 3.28 and 3.31 is included.
15. ☒ A **FIRST** preliminary amendment.
16. ☐ A **SECOND** or **SUBSEQUENT** preliminary amendment.
17. ☐ A substitute specification.
18. ☐ A change of power of attorney and/or address letter.
19. ☐ A computer-readable form of the sequence listing in accordance with PCT Rule 13ter.2 and 35 U.S.C. 1.821 - 1.825.
20. ☐ A second copy of the published international application under 35 U.S.C. 154(d)(4).
21. ☐ A second copy of the English language translation of the international application under 35 U.S.C. 154(d)(4).
22. ☒ Certificate of Mailing by Express Mail
23. ☒ Other items or information:

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DATE DEPOSITED: January 15, 2002

U.S. APPLICATION NO. (IF KNOWN, SEE 37 CFR 1.101) 10/031091		INTERNATIONAL APPLICATION NO. PCT/US00/17374		ATTORNEY'S DOCKET NUMBER RCA 89650	
24. The following fees are submitted:				CALCULATIONS PTO USE ONLY	
BASIC NATIONAL FEE (37 CFR 1.492 (a) (1) - (5)) : <input type="checkbox"/> Neither international preliminary examination fee (37 CFR 1.482) nor international search fee (37 CFR 1.445(a)(2)) paid to USPTO and International Search Report not prepared by the EPO or JPO \$1040.00 <input checked="" type="checkbox"/> International preliminary examination fee (37 CFR 1.482) not paid to USPTO but International Search Report prepared by the EPO or JPO \$890.00 <input type="checkbox"/> International preliminary examination fee (37 CFR 1.482) not paid to USPTO but international search fee (37 CFR 1.445(a)(2)) paid to USPTO \$740.00 <input type="checkbox"/> International preliminary examination fee (37 CFR 1.482) paid to USPTO but all claims did not satisfy provisions of PCT Article 33(1)-(4) \$710.00 <input type="checkbox"/> International preliminary examination fee (37 CFR 1.482) paid to USPTO and all claims satisfied provisions of PCT Article 33(1)-(4) \$100.00					
ENTER APPROPRIATE BASIC FEE AMOUNT =				\$890.00	
Surcharge of \$130.00 for furnishing the oath or declaration later than months from the earliest claimed priority date (37 CFR 1.492 (e)). <input type="checkbox"/> 20 <input type="checkbox"/> 30				\$0.00	
CLAIMS	NUMBER FILED	NUMBER EXTRA	RATE		
Total claims	12 - 20 =	0	x \$18.00	\$0.00	
Independent claims	3 - 3 =	1	x \$84.00	\$0.00	
Multiple Dependent Claims (check if applicable). <input type="checkbox"/>				\$0.00	
TOTAL OF ABOVE CALCULATIONS =				\$890.00	
<input type="checkbox"/> Applicant claims small entity status. See 37 CFR 1.27. The fees indicated above are reduced by 1/2.				\$0.00	
SUBTOTAL =				\$890.00	
Processing fee of \$130.00 for furnishing the English translation later than months from the earliest claimed priority date (37 CFR 1.492 (f)). <input type="checkbox"/> 20 <input type="checkbox"/> 30 +				\$0.00	
TOTAL NATIONAL FEE =				\$890.00	
Fee for recording the enclosed assignment (37 CFR 1.21(h)). The assignment must be accompanied by an appropriate cover sheet (37 CFR 3.28, 3.31) (check if applicable). <input type="checkbox"/>				\$40.00	
TOTAL FEES ENCLOSED =				\$930.00	
				Amount to be: refunded	\$
				charged	\$ 930.00
a. <input type="checkbox"/> A check in the amount of _____ to cover the above fees is enclosed. b. <input checked="" type="checkbox"/> Please charge my Deposit Account No. 07-0832 in the amount of \$930.00 to cover the above fees. A duplicate copy of this sheet is enclosed. c. <input checked="" type="checkbox"/> The Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment to Deposit Account No. 07-0832 . A duplicate copy of this sheet is enclosed. d. <input type="checkbox"/> Fees are to be charged to a credit card. WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.					
NOTE: Where an appropriate time limit under 37 CFR 1.494 or 1.495 has not been met, a petition to revise (37 CFR 1.137(a) or (b)) must be filed and granted to restore the application to pending status.					
SEND ALL CORRESPONDENCE TO: <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> Mr. Joseph S. Tripoli THOMSON multimedia Licensing Inc. Patent Department PO Box 5312 Princeton, New Jersey 08540 </div>					
<div style="margin-top: 20px;"> SIGNATURE KUNYUKI AKAYAMA NAME 43,314 REGISTRATION NUMBER January 15, 2002 DATE </div>					

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Gene Harlow Johnson, Matthew Thomas Mayer,
Scott Edward Klopfenstein, Aaron Hal Dinwiddie

Filed : Herewith

For : METHOD AND APPARATUS FOR PERFORMING A
CHANNEL SEARCH IN A TELEVISION

PRELIMINARY AMENDMENT

Hon. Commissioner of Patents and Trademarks
Box PCT
Washington, D.C. 20231

Sir:

In the US national phase application of PCT/US00/17374 filed
herewith, please enter the following amendments:

IN THE SPECIFICATION:

Please amend the specification as follows: A marked up version of the
amended specification is attached herewith:

On Page 1, please delete lines 5-6, and please replace the first
paragraph as follows:

--This application claims the benefit under 35 U.S.C. § 365 of
International Application PCT/US00/ 17374, filed June 23, 2000, which was
published in accordance with PCT Article 21(2) on January 25, 2001 in English; and
which claims benefit of U.S. provisional application serial no. 60/144,654 filed July
16, 1999.--

IN THE ABSTRACT:

Please add the following Abstract.

-- A television, such as an HDTV receiver, includes a plurality of signal inputs each of which is adapted to receive television signals comprising a plurality of channels and communicate the received television signals to a processor/tuner for selection of the various channels by a user for viewing on a display of the television. A channel search routine for the detection of channels in the television signal is accomplished on the currently designated signal input rather than on all signal inputs of the television. The channels detected during the search of the currently designated signal input are included in a channel list that is stored in memory of the television. A GUI is preferably used to initiate the channel search and is capable of displaying the detected channels relating to the currently selected signal input. Channel lists for each signal input are updated as the channels are detected. A complete channel list may be maintained for all signal inputs as well as individual channel lists for each signal input.--

REMARKS

The specification has been amended to include a reference to the priority applications.

To meet the requirements of the United States, the Abstract (as originally filed in the PCT application) is added.

No fee is believed to have been incurred by virtue of this amendment.
However if a fee is incurred on the basis of this amendment, please charge such fee
against deposit account 07-0832

Respectfully submitted,
Gene Harlow Johnson
Matthew Thomas Mayer
Scott Edward Klopfenstein
Aaron Hal Dinwiddie



Kuniyuki Akiyama
Attorney for Applicant
Registration No. 43,314
609/734-9404

THOMSON multimedia Licensing Inc.
Patent Operation
PO Box 5312
Princeton, NJ 08543-5312

January 15, 2002

MARKED UP VERSION OF THE AMENDED SPECIFICATION

On Page 1, please delete lines 5-6, and please replace the first paragraph as follows:

--This application claims the benefit under 35 U.S.C. § 365 of International Application PCT/US00//17374, filed June 23, 2000, which was published in accordance with PCT Article 21(2) on January 25, 2001 in English; and which claims benefit of U.S. provisional application serial no. 60/144,654 filed July 16, 1999.--

METHOD AND APPARATUS FOR PERFORMING
A CHANNEL SEARCH IN A TELEVISION

CROSS-REFERENCE TO RELATED APPLICATIONS

5 This is a non-provisional patent application based on co-pending
provisional patent application serial number 60/144,654 filed July 16, 1999.

BACKGROUND OF THE INVENTION

1. Field of the Invention

10 The present invention relates to digital television signals and, more
particularly, to the search and detection of digital HDTV television signals.

2. Description of the Related Art

15 High Definition television (HDTV) sets and other digital equipment such as
set-top boxes must be able to receive digital and analog television signals from
various sources. In order to accomplish this, such television receivers and other
digital/analog equipment have two or more signal inputs that are adapted to
receive various television signal sources. The television allows the user to switch
between the various signal inputs in order to view the channels carried by the
signal source coupled to the selected signal input.

20 Digital and analog television signals may be received from sources such as
antennas, community cable systems, Direct Broadcast Satellite (DBS) systems,
or the like. These various signal sources are coupled to separate signal inputs of
the television and/or other digital/analog equipment (hereinafter collectively
termed "television"). Each signal source typically carries many television
channels. Some of the channels from the various signal sources are the same
25 while some of the channels are different. With regard to both analog and digital
off-air television signals from an antenna, if several digital channels are available,
the user may be required to manually adjust the antenna in order to receive the
best possible reception from all available channels.

30 With any signal source, the television needs to know what channels are
available for each signal source or signal input, in order to skip those channels
that do not carry programming when the user is switching between the various

channels. Channel autoprogramming algorithms and systems for automatically detecting active channels and indicating the active channels in a channel scanning list are known for analog television receivers.

It is known to provide a channel search routine for analog channels that will obtain a discrete sample or "snapshot" of all the currently available channels on all of the various signal inputs. The channel search routine then stores all of the channels detected from all of the signal inputs during the search in memory (e.g. EEPROM), deleting any channels previously stored that are not now currently available. At power-up of the unit, the channels in EEPROM become the channel list. This may occur when the user makes an adjustment to the antenna, such as moving position or location, or when the DBS or cable system adds and/or deletes channels.

Part of the channel search process is detecting if cable or an air antenna is connected to the signal input. This detection is performed on all signal inputs. Such a search may be an iterative process. The user potentially will need to adjust the antenna and complete a channel search several times before correctly positioning the antenna for superior reception of all channels available. As this is a time consuming process, there is a need for a different type of channel search.

It is thus an object of the present invention to provide a channel search that will shorten the time necessary to complete the channel acquisition process.

SUMMARY OF THE INVENTION

In accordance with one aspect of the present invention, there is provided a method and apparatus for performing a channel search on a television having multiple signal inputs.

In one form, a channel search is performed only on the currently selected signal input of the television rather than on all signal inputs. Depending on the number of signal inputs, channel search time is reduced by at least one-half the time.

According to an aspect of the present invention, since the channel search is performed on only the currently selected signal input, there is no need to

perform a cable/antenna detection algorithm. This as well reduces the amount of time necessary to perform the channel search.

According to another aspect of the present invention, the present channel search may use information that was found during a last full channel search or
5 information that was entered by the user.

In another form, a channel search program/routine preferably of a graphical user interface (GUI) e.g., a television programming or set-up menu, is adapted to allow the user to accomplish a channel search on only the currently selected signal input and/or enter information regarding the existence of various channels.

10 The GUI can be combined with other GUI functions of a similar nature, i.e. channel information, rather than to have the user navigate through several menu options.

BRIEF DESCRIPTION OF THE DRAWING

The above-mentioned and other features and advantages of this invention,
15 and the manner of attaining them, will become more apparent and the invention will be better understood by reference to the following description of an embodiment of the invention taken in conjunction with the accompanying drawing, wherein:

Fig. 1 depicts a multimedia system adapted to receive and utilize digital
20 and analog television signals, as well as perform various television channel searches and storage of channel lists for various inputs.

Corresponding reference characters indicate corresponding parts throughout the several views. The exemplification set out herein illustrates a preferred embodiment of the invention, and such exemplification is not to be
25 construed as limiting the scope of the invention in any manner.

DETAILED DESCRIPTION OF THE INVENTION

Referring now to the drawings and, more particularly to Fig. 1, there is shown a simplified, functional block diagram of a multimedia system 10. Multimedia system 10 may include television ("TV") or monitor 12 and DBS
30 and/or set-top box receiver 14. DBS receiver 14 is in communication with signal input 16 of TV 12 via a communication line as is known in the art. DBS (Direct

Broadcast System) receiver 14 is in communication with dish (or antenna) 18 via a communication line as is also known in the art. Dish 18 receives digital multimedia and/or data signals, e.g. television, music and/or internet signals (hereinafter collectively "television signals"), that are focused onto and received by feedhorn/LNA (Low Noise Amplifier) unit 20. Feedhorn/LNA unit 20 typically receives and slightly amplifies the received television signals and transmits the amplified television signals to DBS receiver 14 for processing.

TV 12 includes image display or viewing area 22 and speakers 24a and 24b. In addition to signal input 16, TV 12 also includes signal inputs 26, 28, and 30. Signal inputs 16, 26, 28, and 30 are typically RF type signal inputs but may be any type of signal input such as RF and S-video. Additionally, while TV 12 is shown with four signal inputs, it should be understood that the number of signal inputs may vary from two to as many as practical. As depicted in Fig. 1, signal input 26 is signified as coupled with a CATV or cable system via cable or communication input line 34. TV 12 is shown coupled to antenna or aerial 36 via a communication input line with signal input 28. Likewise, antenna or aerial 38 is coupled to TV 12 via a communication input line. Antennas 36 and 38 are designed to receive off-air or terrestrially broadcast television signals which may be either digital or analog television signals. As such, antennas 36 and 38 are generally adjustable either manually or automatically. While antennas 36 and 38 are shown coupled to signal inputs 28 and 30 respectively, signal input 26 is shown coupled to CATV, and signal input 16 is shown coupled to DBS 14, it should be understood that generally each signal input can accept any input device, i.e. antenna, CATV, DBS or the like. Thus what is shown in Fig. 1 is for illustrative purposes only.

Signal inputs 16, 26, 28 and 30 are fed into microcontroller unit (" μ C") 32 such that television signals from any signal input may be selected for discriminating or tuning the various channels and receiving any data signals by tuner or selector 40 as is known in the art. Tuner 40 is in communication with μ C unit 32 such that analog and digital television signals received from either antenna 36 or 38, CATV 34, or dish 18 are received and processed by μ C unit

32 as is known in the art. In addition to other functions as are known in the art, μ C unit 32 provides control and/or implementation of the various software programs/routines and is in communication with various components in accordance with the various aspects of the present invention, such as memory 42, e.g. EEPROM, RAM, ROM, display 22, and speakers 24a and 24b for providing audio output for the user.

Additionally, μ C unit 32 includes the ability to generate, process, and display OSD information/data on display 22. The OSD information/data may be part of a received television signal or may be generated internally. Such OSD information may include channel number, time, signal strength, on-screen electronic program guides (EPGs), internet data, pop-up windows, on-screen electronic programming menus, and the like. Microcontroller unit 32 also runs various software necessary to process and/or utilize the incoming digital signals as is known in the art and additionally as provided herein.

It should be understood that μ C unit 32 by itself or along with tuner 40 and memory 42 form a module capable of implementing the present invention. This module may be totally separate (discrete module) or may incorporate existing constituents of the various components (virtual module). In this manner, the module may be incorporated into TV 12, DBS/Set-Top Receiver Unit 14, or any other digital component capable of receiving and/or utilizing digital television signals.

As is typical of televisions, TV 12 is able to process only television signals from one signal input or signal reception medium, i.e. antenna, cable or satellite dish. The choice of which signal input to process and thus the channels to watch is determined by the user typically through input from a remote (not shown) as is known in the art. Thus, the selection of which signal input 16, 26, 28 or 30 to have TV 12 process and allow the various channels to be viewed on display 22 is chosen by the user.

In accordance with the present invention, upon initiation of a channel search in order to detect what channels are being broadcast in the television signal, the channel search routine tries to detect channels only from the currently

selected signal input of signal inputs 16, 26, 28, and 30. Upon detection of a channel on which information is being broadcasted, a channel list stored in memory 42 is updated to include the detected channel for the particular signal input. The channel search may utilize channel information that was determined during a last channel search for the particular signal input. Alternatively or additionally, the channel search may utilize channel information that was entered by the user. The channel list preferably includes a label or identifier for each active channel detected which relates the detected channel to the particular signal input being scanned. Thus, when a user is viewing channels from a selected signal input, only those channels that were detected from the selected signal input are displayable.

In order to further reduce the time necessary to perform channel detection, the various signal inputs 16, 26, 28, and 30 may accept only certain signal sources. For example, signal input 16 may only accept DBS/Set-top box type television signals and thus only those channels that are typical of DBS/Set-top box signals. Signal inputs 28 and 30 may accept only terrestrial or off-air television signals (VHF/UHF) that only carry characteristics channels, while signal input 26 may accept only cable television signals which carry only a certain range of channels. Preferably, television 12 includes a full channel search routine that detects all available channels from all signal inputs 16, 26, 28, and 30, in order to establish a baseline channel list if necessary.

It is not necessary for television 12 to perform a channel search/scan on television signals from every signal input. As such, the present invention preferably performs the channel detection/search/scan only on those signal inputs that are coupled to antennas that are receiving off-air or terrestrial television signals, and those signal inputs that are coupled to CATV systems for receiving cable TV signals. At a minimum, the present invention may be applied only to those signal inputs that are coupled to antennas. In Fig. 1, this would be signal inputs 28 and 30 which are coupled to antennas 36 and 38 respectively, and signal input 26 which is coupled to a CATV system. It should be understood that while a DBS receiver 14 is shown coupled to television 12 via signal input

16, the present channel search is not performed on this set of television signals, since the DBS receiver 14 performs this function. This would also be true of a VCR or like device (not shown) that would be coupled to a signal input.

Generally, the present channel search is performed on the signal inputs coupled to the antennas. As such this would eliminate a cable/air detection routine as performed in the prior art thereby reducing the time necessary to perform the channel search function.

Upon selection of a channel scan by the user, preferably from within a screen of a GUI, a channel search is started on the channels characteristic of the signal input. A next frequency starting from a chosen frequency is scanned for detection of a usable signal. If there is not a next frequency, the routine is done. When a next frequency is encountered, it is determined whether there is a usable signal on the frequency/channel. Usable may be determined by applying a threshold signal strength for the incoming signal to overcome or other parameter or set of parameters. For each incoming frequency/channel that does not meet threshold signal strength requirements or otherwise, the channel may be removed from the channel list and a next frequency is determined. A continuous non-receipt of usable channels results in a loop until there are no more next frequencies available. For each incoming frequency/channel that does meet threshold signal strength requirements or otherwise, the channel is added to the channel list, preferably with an identifier indicating which signal input it is from. The process repeats until there is no next frequency.

While this invention has been described as having a preferred design, the present invention can be further modified within the spirit and scope of this disclosure. This application is therefore intended to cover any variations, uses, or adaptations of the invention using its general principles. Further, this application is intended to cover such departures from the present disclosure as come within known or customary practice in the art to which this invention pertains and which fall within the limits of the appended claims.

WHAT IS CLAIMED IS:

1. In a video processing apparatus having at least two video inputs and coupled to a display device, a method of performing a channel search comprising:
determining a currently selected video input of the at least two video
5 inputs;
detecting available channels from various possible channels on only the currently selected video input; and
updating a channel list of channels available for the currently selected video input.
- 10 2. The method of claim 1, wherein detecting available channels comprises detecting only digital channels.
3. The method of claim 1, further including after determining a currently selected video input:
utilizing information generated from a previous full channel search
15 regarding whether a video input is coupled to a cable video signal source or an antenna video signal source in order to skip a cable/air detection routine.
4. The method of claim 1, further including after determining a currently selected video input:
utilizing information entered by a user regarding whether a video input is
20 coupled to a cable video signal source or an antenna video signal source in order to skip a cable/air detection routine.
5. A video processing apparatus coupled to a display device and having at least two RF video inputs couplable to a source of television signals, the video processing apparatus comprising:
25 means for selecting one of the RF video inputs as a television signal source for processing;
means for detecting available channels from only the RF video input selected by the means for selecting; and
means for updating a channel list of channels available for the selected RF
30 video input.

6. The video processing apparatus of claim 5, wherein the means for detecting available channels comprises detecting only digital channels.

7. The video processing apparatus of claim 5, further including:

means for utilizing information generated from a previous full channel

5 search regarding whether an RF video input is coupled to a cable video signal source or an antenna video signal source in order to skip a cable/air detection routine.

8. The video processing apparatus of claim 5, further including:

means for utilizing information entered by a user regarding whether an RF

10 video input is coupled to a cable video signal source or an antenna video signal source in order to skip a cable/air detection routine.

9. A video processing apparatus comprising:

means for receiving a first plurality of channels of television signals from a first television signal input;

15 means for receiving a second plurality of channels of television signals from a second television signal input;

means for displaying the plurality of channels of television signals from either the first and second television signal inputs;

20 means for selecting one of the first and second television signal inputs for processing and display;

means for detecting available channels from only the selected first or second television signal input selected by the means for selecting; and

means for updating a channel list of channels available for the selected television signal input.

25 10. The video processing apparatus of claim 9, wherein the means for detecting available channels comprises detecting only digital channels.

11. The video processing apparatus of claim 9, further including:

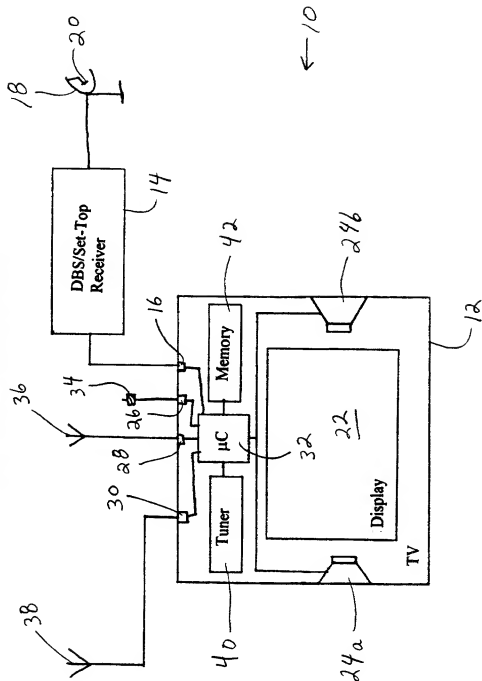
means for utilizing information generated from a previous full channel

30 search regarding whether a television signal input is coupled to a cable video signal source or an antenna video signal source in order to skip a cable/air detection routine.

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12. The video processing apparatus of claim 9, further including:
means for utilizing information entered by a user regarding whether a television signal input is coupled to a cable video signal source or an antenna video signal source in order to skip a cable/air detection routine.

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**Fig. 1**

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PTO/SB/01 (10-50)

Approved for use through 10/31/2002. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

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DECLARATION FOR UTILITY OR DESIGN PATENT APPLICATION (37 CFR 1.63)

☐ Declaration Submitted With Initial Filing
OR
☐ Declaration Submitted after Initial Filing (surcharge (37 CFR 1.16 (e)) required)

Attorney Docket Number	RCA 89650
First Named Inventor	Gene Harlow Johnson et al
COMPLETE IF KNOWN	
Application Number	/
Filing Date	
Group Art Unit	
Examiner Name	

As a below named inventor, I hereby declare that:

My residence, post office address, and citizenship are as stated below next to my name.

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled:

METHOD AND APPARATUS FOR PERFORMING A CHANNEL SEARCH IN A TELEVISION

the specification of which (Title of the Invention)

☐ is attached hereto

OR

☒ was filed on (MM/DD/YYYY) **June 23, 2000** as United States Application Number or PCT International

Application Number **PCT/US00/17374** and was amended on (MM/DD/YYYY) (If applicable)

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims as amended specifically referred to above.

I acknowledge the duty to disclose information which is material to patentability as defined in 37 CFR 1.56, including for continuation-in-part applications, material information which became available between the filing date of the prior application and the national or PCT international filing date of the continuation-in-part application.

I hereby claim foreign priority benefits under 35 U.S.C. 119(a)-(d) or 365(b) of any foreign application(s) for patent or inventor's certificate, or 365(a) of any PCT international application which designated at least one country other than the United States of America, listed below and have also identified below, by checking the box, any foreign application for patent or inventor's certificate, or of any PCT international application having a filing date before that of the application on which priority is claimed.

Prior Foreign Application Number(s)	Country	Foreign Filing Date (MM/DD/YYYY) Country	Priority Not Claimed	Certified Copy Attached?	
				YES	NO
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

☐ Additional foreign application numbers are listed on a supplemental priority data sheet PTO/SB/02B attached hereto.

I hereby claim the benefit under 35 U.S.C. 119(e) of any United States provisional application(s) listed below.

Application Number(s)	Filing Date (MM/DD/YYYY)	<input type="checkbox"/> Additional provisional application numbers are listed on a supplemental priority data sheet PTO/SB/02B attached hereto.
US 60/144,854	July 16, 1999	

[Page 1 of 2]

Burden Hour Statement: This form is estimated to take 21 minutes to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

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PTO/SB/01 (10-00)

Approved for use through 10/31/2002, OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

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DECLARATION — Utility or Design Patent Application

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NAME OF SOLE OR FIRST INVENTOR:				<input type="checkbox"/> A petition has been filed for this unsigned inventor		
Given Name GENE HARLOW				Family Name JOHNSON or Surname		
Inventor's Signature <i>Gene Harlow</i>				Date 1-3-02		
Residence: City CARMEL		State IN	Country INDIANA	Citizenship US		
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NAME OF SECOND INVENTOR:				<input type="checkbox"/> A petition has been filed for this unsigned inventor		
Given Name MATTHEW THOMAS				Family Name MAYER or Surname		
Inventor's Signature <i>Matthew Thomas</i>				Date 1-3-02		
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<input checked="" type="checkbox"/> Additional inventors are being named on the 1 supplemental Additional Inventor(s) sheet(s) PTO/SB/02A attached hereto.						

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DECLARATION**ADDITIONAL INVENTOR(S)
Supplemental Sheet
Page 1 of 1**

Name of Additional Joint Inventor, if any:		<input type="checkbox"/> A petition has been filed for this unsigned inventor	
Given Name (first and middle (if any))		Family Name or Surname	
SCOTT EDWARD		KLOPFENSTEIN	
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